

REMARKS

In the Office Action mailed January 2, 2008, claims 1 and 3-21 were rejected. Claims 1-8, 11-13, 15-18 and 21 were rejected under 35 U.S.C. §102(b) as being anticipated by Bauck et al. (U.S. Pat. No. 4,189,759). Claims 9, 10, 14, 19 and 20 were rejected under 35 U.S.C. §103(a) as being obvious over Bauck et al. in view of Nagahiro et al. (U.S. Pat. App. Pub. No. 2003/0218833).

Interview Summary

A telephonic interview between Examiner Matthew Kayrish and Austen Zuege (Reg. No. 57,907), for Applicants, was conducted on January 16, 2008. All of the pending claims and the Bauck et al. and Nagahiro et al. references were discussed. The Examiner acknowledged that clarification as to the definition of the term "endcap" and as to the side where the endcap or shield is located on an actuator arm would clarify the present claims with respect to the disclosure of Bauck et al. However, no agreement was reached regarding the claims.

Claim Rejections – 35 U.S.C. §102(b)

Claims 1-8, 11-13, 15-18 and 21 were rejected under 35 U.S.C. §102(b) as being anticipated by Bauck et al. (U.S. Pat. No. 4,189,759).

Amended independent claim 1 relates to an endcap for use on an actuator arm carrying a single head gimbal assembly that includes a load beam, the endcap being connected to an end of the actuator arm to provide balancing. Amended independent claim 1 recites a body of the endcap connected to the actuator arm at a side of the actuator arm facing away from the load beam, and a shielding feature extending from the body in a cantilevered configuration for reducing windage excitation of the head gimbal assembly.

Amended independent claim 11 requires an actuator arm, a head gimbal assembly having a load beam connected to a first side of the actuator arm, and a shield having a first portion attached to the actuator arm and a second cantilevered portion that extends relative to an edge portion of the head gimbal assembly for reducing airflow excitation of the head gimbal assembly. According to amended independent claim 11, the first side of the actuator arm is arranged to face

a magnetic storage medium. Furthermore, the shield is attached to a second side of the actuator arm that is opposite the first side of the actuator arm such that the shield extends adjacent to the head gimbal assembly and the second cantilevered portion is spaced from the head gimbal assembly.

Bauck et al. discloses a cantilevered beam assembly 20 that includes a base portion (or base plate) 22, a U-shaped guard portion 24, and a tip portion (or load beam) 26. (Bauck et al., col. 6, ll. 26-47; FIGS. 2 and 3). On page 2 of the January 2, 2008 Office Action and during the January 16, 2008 interview, the Examiner acknowledged that element 22 of Bauck et al. refers to a base plate. The base portion (or base plate) 22 has holes 46, 48 and 50 for screw attachment to a carriage 152 that is not shown in FIGS. 2 and 3. (Bauck et al., col. 6, ln. 63 to col. 7, ln. 4; FIGS. 2 and 3; *see also* col. 13, ll. 14-16; FIGS. 1 and 7-9). The carriage 152 disclosed by Bauck et al. is comparable to a carriage arm or actuator arm. The base portion (or base plate) 22 has two legs 52 and 54 with channels 64 and 66, respectively. (Bauck et al., col. 7, ll. 4-9 and 32-34; FIG. 2). The guard portion 24 has rectangular portions 112 and 114 that are attached to the channels 64 and 66 of the legs 52 and 54 of the base portion (or base plate) 22 using screws 28, 30, 32 and 34, or, alternatively, the guard portion 24 is formed as a single unitary structure with the base portion 22. (Bauck et al., col. 6, ll. 46-48; col. 7, ll. 34-43; col. 9, ll. 61-64; col. 10, ll. 25-33; FIGS. 2 and 3). The guard portion 24 "surrounds or enshrouds" the tip portion 26, and the claims describe the guard member (the "third member") as "being substantially in the same plane" as the base portion 22 (the "first elongated relatively flat support means") and the tip portion 26 (the "second elongated relatively flat support means"). (Bauck et al., col. 9, ll. 66-68; col. 10, ll. 43-46; col. 14, ll. 7-27; FIGS. 2 and 3). The guard portion 24 defines a leading edge 122, trailing edge 124 and a front edge 126. (Bauck et al., col. 10, ll. 61-67; FIG. 2). The tip portion (or load beam) 26 is a cross-shaped structure that is hingedly connected to the legs 52 and 54 of the base portion (or base plate) 22 via flexure means 36 and 38, which include leaf springs 100 and screws 102, 104, 106 and 108. (Bauck et al., col. 6, ll. 46-52; col. 8, ll. 3-7; col. 9, ll. 6-35; FIGS. 2, 3 and 6). A magnetic transducer 58 is supported by the tip portion 26. (Bauck et al., col. 8, ll. 18-21; FIG. 2).

Bauck et al. fails to show, teach or disclose each and every limitation of independent claims 1 and 11. First, Bauck et al. does not disclose an endcap or shield attached to an actuator arm at a side of the actuator arm facing away from or opposite a load beam of a head gimbal assembly as recited by independent claims 1 and 11. Second, Bauck et al. fails to show, teach or disclose an "endcap" that is connected to an end of the actuator arm to provide balancing as recited by claim 1. Instead, Bauck et al. discloses a baseplate 22 and a tip portion 26 that are connected together at the same side of an actuator arm, with the baseplate providing a mechanical connection function rather than a balancing function provided by an endcap. Here it is important to note that element 22 shown in FIG. 3 of Bauck et al. is a *baseplate*, while the element 152 (shown most clearly in FIG. 7, though the baseplate 22 connected to it is not labeled in FIG. 7) is a carriage comparable to a carriage arm or actuator arm. In that regard, FIG. 7 of Bauck et al. clearly shows the baseplate 22 and the tip portion 26 carrying the transducer 58 connected together at the same side of the carriage 152, which faces one of the discs in the flexible disc file 134. Thus, the rejections of amended independent claims 1 and 11 under §102(b) should be withdrawn. Notification to that effect is requested.

Claims 3-8 and 21 depend from amended independent claim 1 and include all of the limitations of that base claim. Therefore, dependent claims 3-8 and 21 are likewise allowable over the cited art for the reasons given above with respect to amended independent claim 1, and the rejections of those claims under §102(b) should be withdrawn. Notification to that effect is requested.

Claims 12, 13 and 15-18 depend from amended independent claim 11 and include all of the limitations of that base claim. Therefore, dependent claims 12, 13 and 15-18 are likewise allowable over the cited art for the reasons given above with respect to amended independent claim 11. The rejections of dependent claims 12, 13 and 15-18 under §102(b) should be withdrawn, and notification to that effect is requested.

Claim Rejections – 35 U.S.C. §103(a)

Claims 9, 10, 14, 19 and 20 were rejected under 35 U.S.C. §103(a) as being obvious over Bauck et al. (U.S. Pat. No. 4,189,759) in view of Nagahiro et al. (U.S. Pat. App. Pub. No. 2003/0218833).

Nagahiro et al. discloses a carriage arm assembly (or actuator arm assembly) for a magnetic disc drive. Nagahiro et al. discloses a suspension 2 (or load beam) that supports a slider 3 and a magnetic head (not shown) at a "tip" or distal end of a rotatable carriage arm 7, and a restraint board 12 affixed to the carriage arm 7. (Nagahiro et al., ¶¶16, 35 and 36; FIGS. 1-3). The restraint board 12 is a thin T-shaped structure in the embodiment shown in FIGS 1-3 of Nagahiro et al. (Nagahiro et al., ¶36; FIGS. 1-3).

Claims 9 and 10 depend from independent claim 1 and include all of the limitations of that base claim, and claim 14 depends from independent claim 11 and includes all of the limitations of that base claim. Nagahiro et al. does not provide the limitations missing in Bauck et al. Therefore, for the reasons given above, dependent claims 9, 10 and 14 are likewise allowable over the cited references, and the rejections of those claims under §103 should be withdrawn.

Amended independent claim 19 relates to a shielded head actuation system and requires a rotatable actuator arm, a head gimbal assembly attached to a first side of the actuator arm, a rotatable magnetic disc, and an endcap that includes a body and a symmetrically balanced shape feature. The endcap provides balancing to the actuator arm. Amended independent claim 19 recites that wherein the first side of the actuator arm is arranged to face the rotatable magnetic disc. Furthermore, amended independent claim 19 recites that the body be attached to a second side of the actuator arm opposite the head gimbal assembly such that the shape feature is positioned adjacent to a top face of the head gimbal assembly in a cantilevered configuration to reduce airflow excitation of the head gimbal assembly.

First, Bauck et al. does not disclose a head gimbal assembly attached to a first side of an actuator arm facing a rotatable magnetic disc and an endcap attached to a second side of the actuator arm opposite the head gimbal assembly as recited by claim 19. Second, Bauck et al. fails

to show, teach or disclose an "endcap" that provides balancing to the actuator arm. These distinctions over Bauck et al. are similar to those described above with respect to claims 1 and 11.

In addition, a person of ordinary skill in the art would not have known to combine the teachings of Bauck et al., which are directed to guards for protecting an actuator assembly inserted into a flexible disc file, with the teachings of Nagahiro et al., which are directed to damping or dissipating vibrations in a disc drive assembly. The cited references deal with different, unrelated problems. The references are not compatible or modifiable in a way that would produce the present invention as claimed in amended independent claim 19. The damping effect provided by Nagahiro is dependent upon its restraint board 12 being completely fixed to the arm 7 (i.e., not being cantilevered) in order to produce strain in the viscoelastic material 11. Thus, combining the teachings of the cited references would undermine the recitations of base claims 1 and 11 regarding a cantilevered configuration.

Thus, the rejection of amended independent claim 19 under §103(a) should be withdrawn. Notification to that effect is requested.

Claim 20 depends from amended independent claim 19 and includes all of the limitations of that base claim. Dependent claim 20 is likewise allowable over the cited art for the reasons given above with respect to amended independent claim 19. Notification to that effect is requested.

CONCLUSION

All of the pending claims are in condition for allowance. The Commissioner is authorized to charge any additional fees associated with this paper or credit any overpayment to Deposit Account No. 11-0982.

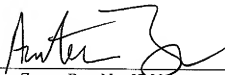
Respectfully submitted,

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Date:

4.2.2008

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